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VOL. II. JUNE, 1882. No. 6

[Memphis medical monthly]

MISSISSIPPI VALLEY

MEDICAL MONTHLY

JULIUS WISE, M.D., EDITOR.

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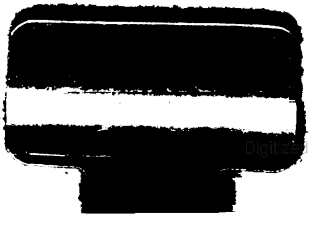

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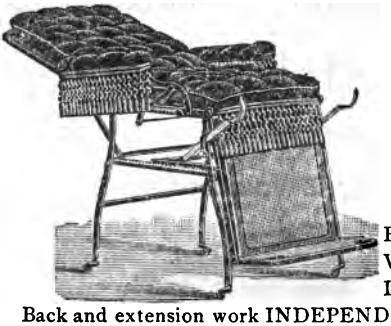

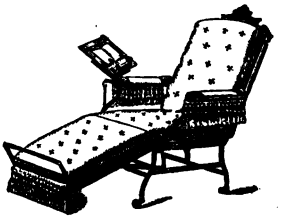

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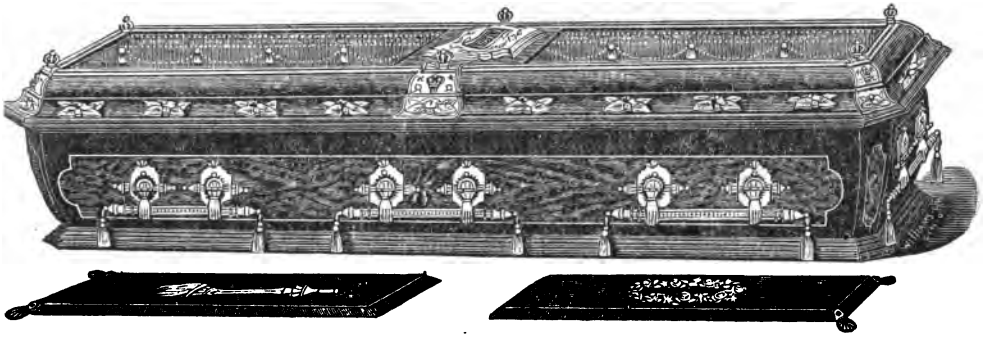

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MISSISSIPPI VALLEY
MEDICAL MONTHLY

VOL. II. MEMPHIS, JUNE, 1882. No. 6

Original Communications.

COMPOUND COMMINUTED FRACTURE OF BOTH LEGS—DOUBLE AMPUTATION—PNEUMONIA—RECOVERY.

Read before the West Tennessee Medical Society,

BY J. B. JONES, M.D., OF M'KENZIE, TENN.

C. P. S., native of McNairy county, Tenn., twenty-six years old, six feet one inch high, weight one hundred and eighty pounds, by occupation a painter, a perfect athlete, habits good, had walked a distance of forty-four miles in snow and mud with but little rest, was overcome with exhaustion, and was resting on end of trestle on N. C. & St. L. Railway, about 5 A.M., January 20th, 1882. While sleeping in this position was aroused by an approaching train; made an effort to escape by starting over the trestle; was struck by the engine and precipitated a distance of twenty-six feet into a stream of water about one foot in depth and eight feet in width. I was called to see him about 6 A.M. Upon examination, assisted by Drs. Gwin and Sneed, found a compound comminuted fracture of both legs about six inches above the ankle joints; flesh torn and lacerated, muscles of posterior tibia-fibular region exposed, mangled and bleeding, with numerous spiculæ of tibia and fibula projecting; both limbs presented very much the same appearance; a large contusion on the left of lumbar region, and a lesser one involving the elbow of left arm. The circulation was barely perceptible below the elbow; capillaries apparently empty; surface cool

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and pallid, presenting the peculiar cadaverous appearance characteristic of intense shock—in fact dissolution appeared inevitable.

Morph. sulph. grs. ¼, quinia sulph. grs. x, good whisky ℥ij, was at once administered. His wet clothing was removed, and he was placed between warm blankets. Mustard was liberally applied to wrists, over the cardiac region, and to the spinal column. Gave carbonate of ammonia grs. x, and in a short time added chloroform minims v. About one gill of strong coffee was administered per rectum and retained.

The heroic use of stimulants and restoratives finally established partial reaction, and at 1 P.M., upon consultation with Drs. Gwin and McSwain, it was decided to remove one leg. The anæsthetic was badly borne; circulation became quite feeble, surface pallid and cool, respiration suspended except when produced artificially; indeed, we thought our patient had only reacted to subject us to the sad humiliation of witnessing his death upon the operating table, but artificial respiration, continued and liberal use of mustard externally, quinine and whisky by injection, with strong coffee as a vehicle, finally, after all reasonable hope had departed, rewarded us with returning vitality and consciousness, and at 11 P.M. the circulation could be distinctly felt at the wrists.

Observation and the heroic use of stimulants, aided by nutrition, was continued till 10 A.M. the 21st, when it was decided to remove the other leg. The shock from this operation and the anæsthetic were tolerated much better than in the first instance, yet the depression was so great that grave apprehensions were excited as to the result. In this operation I was assisted by Drs. Curtis, McSwain and Sneed.

Both legs were removed by the circular operation, a preferred method with me, more from early impressions received while a student of the lamented Eve, than any peculiar merit it possesses or especial advantages it offers over other modes.

Dressings were applied, and the patient returned to bed in a semi-comatose condition, and continued so till 4 P.M., when by an effort of the attendant he was sufficiently aroused to take a milk punch and a soft boiled egg. His temperature at this time was 94¼. Pulse feeble, and so frequent that it could

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not be counted after the monosyllables were passed. Respiration slow and easy.

My opportunities for studying the thermal range in subjects depressed by violent shock has been quite limited, and I regret that so little time has been devoted to it by statisticians. This feature of the case was of especial interest to me. The most interesting and comprehensive report that I have found upon this subject was contributed by Mr. W. W. Wagstaffe to St. Thomas' Hospital Reports for 1870. He noted the temperature in over eighty cases of injury of various kinds, and finds a marked difference in depression in temperature during collapse in fatal and non-fatal cases. The lowest temperature recorded by the author was in a fatal case of fractured spine, in which the temperature fell $16\frac{65}{100}$ deg. in forty-eight hours. The lowest that recovered was in a case of cut throat, where the patient upon admission registered $91\frac{7}{10}$. In a table at the end of his paper he analyzes forty-seven cases in which the fall was more than two degrees, forty recovered, seven died; thirty-four cases in which the fall was more than two degrees, nine recovered, twenty-five died. Mr. Wagstaffe assumes that $98\frac{4}{10}$ is the normal standard. The temperature of my patient was recorded first time at 4 P.M. the 21st, about thirty-five hours from time of primary shock. I regret it was not taken at time of injury, and regularly thereafter. As before stated, it was $94\frac{1}{4}$ at that time. It occurs to me that thermometrical observations may be of prime value in forming a prognosis in cases of surgical injury.

The night was passed quietly, with gradual but slow improvement in his condition. Quinia, whisky, nutrition and sedatives when required were all well borne, and at 7 A.M. thermometer registered $94\frac{1}{2}$; pulse 124, diminished in frequency and improved in volume.

Jan. 23, 8 A.M. Passed a quiet night; had $\frac{1}{4}$ grain of morphia at 10 P.M. Remedies and nutrition well tolerated. Pulse 124; temperature $94\frac{1}{2}$. Complains of excruciating pain in contused parts.

Jan. 24, 8 A.M. Resting well, did not require a sedative during the night. Pulse 120; temperature 95; respiration

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slow and full. Stumps pale but healthy, no irritation apparent. Dressings reapplied, whisky, quinia and sedatives when required, and increased quantity of eggs, unskimmed milk and rich soup ordered to be administered at regular intervals. Was called at 8 P.M.; messenger reported patient dying. Found him with cold, clammy surface, capillaries empty, unconscious but quiet; slow, sighing respiration; pulse frequent but quite feeble; temperature 94½. Whisky, quinia and ammonia internally and mustard externally again had the desired effect, and at 2 A.M. the 25th, reaction was pretty fairly established and patient complained of pain in right side. Auscultation and percussion developed the startling fact that my patient had incipient pneumonia. Middle lobe of right lung was fully engorged. Pulse and temperature improved somewhat. Applied mustard to side and enveloped the whole with a warm poultice, ordered a sedative to secure rest, continued other remedies, increased the quantity of nutrition, and left to return at 10 A.M., the 25th. Found patient resting comparatively easy, some pain caused by a deep inspiration, or by coughing; sputa scant and glairy. Pulse 124; temperture 95¼; respiration slow and embarrassed. Application to side; quinine, whisky and ammonia continued; sedatives, when necessary; and an increased amount of nutrition, at regular intervals, ordered.

January 26, 8 A.M. Had a quiet night. Pulse 118; temperature 96. Affected lobe of lung pretty well solidified; coughing occasionally; expectoration slight and darker; treatment continued. 6 P.M. Pulse 112; temperature 97. Increased dullness over lower lobe of affected lung.

Jan. 27, 8 A.M. Had a restless night. Pulse 116; tempeature 97. Cough more troublesome; expectoration characteristic but scant; lower lobe of affected lung engorged fully. Evening call—found pulse 120; temperature 99. Nutrition and remedies well tolerated; no change in treatment.

Jan. 28, 9 A.M. Passed a better night; more rational; complains of more pain from pneumonia and contusions; cough more frequent; expectoration more abundant, streaked with small quantities of blood. Pulse 108; temperature 98½. Cheeks flushed. Up to this time stumps had been doing

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well, only the temperature had been too low; but now indications of sloughing are unmistakable. Chlorate of potassa, and tinc. ferri. chlo. in addition to former treatment. 9 P.M. Pulse full 110; temperature 99½. Increased amount of "brick dust" sputa. Resolution partially established.

Jan. 29. Morning call—found patient comparatively quiet, after passing a restless night. Pulse 104; temperature 98¾. Cough troublesome. Expectoration abundant; resembling the so-called prune-juice sputa. 6 P.M. Pulse 120; temperature 100. Stumps sloughing freely. Quantity of quinia reduced to 3 grs. every four hours; carbonate of ammonia, 5 grs. every four hours; whisky ½ drachm, every two hours. Sedatives to secure rest; good nutrition in abundance. Iron and potassa in increased quantities.

Jan. 30, 9 A.M. Pulse 104; temperature 99. Expectoration abundant; respiration improved. Rest comparatively good, only when disturbed by a paroxysm of coughing, which is frequent and exhaustive. 6 P.M. Pulse 120; temperature 100. Remedies and nutrition well borne. Treatment continued. Stumps sloughing freely.

Jan. 31. Pulse 108; temperature 98½. Resolution well established. Had a good night's rest. Nutrition well assimilated. Cough somewhat abated; expectoration characteristic. Nothing worthy of record occurred in reference to this feature of the case from this date. The progress was slow but satisfactory, and February 15th recovery was complete. Pulse, temperature and respiration normal.

In this case we have a pneumonia established in a patient not yet recovered from the shock caused by the accident and subsequent operations, whose vitality was apparently taxed to its utmost powers of endurance, pass through its successive stages, and end in recovery in twenty-one days, asthenic in type, and sometimes presenting the characteristic symptoms usually denominated typhoidal.

Feb. 1. Stumps still sloughing, pulse 104, temperature 99. Dressings to stumps have been of an antiseptic character from the beginning, increased or decreased in strength as condition of wounds indicated.

Feb. 2. Patient resting well. Stumps presenting a more

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healthy appearance. End of tibia on one leg and both tibia and fibula on the other exposed; circulation and temperature about same as at last visit. Tonics, sedatives and nutrition constituted the treatment, with proper attention to wounds.

Feb. 3. Patient says he is better; had a quiet night; appetite improving; treatment continued.

Feb. 4. Sloughing arrested; ends of bones above mentioned exposed; further surgical interference will probably be necessary, but will be deferred till physical condition of patient is improved.

Feb. 5. Patient resting well; appetite good.

Feb. 6. Decided improvement in condition of patient; wounds covered with healthy granulations; appetite good; anæmia being relieved.

Feb. 7. Condition of patient satisfactory.

Feb. 8. Patient resting well; eating heartily; wounds improving. These conditions continued till Feb. 20, at which time he was in vigorous health, and the sloughed tissue being rapidly replaced, he was carried to Dresden by rail without the slightest inconvenience. The care of patient was turned over to Dr. Rogers, who continued the use of tonics, nutrition and attention to wounds.

March 2. Visited patient at Dresden; decided improvement in condition of wounds, healing rapidly; re-amputation will probably not be necessary; ends of bones pretty well covered; patient in vigorous health, well nourished and cheerful.

March 20. Condition of patient good; stumps healing nicely.

May 1. Stumps well; patient in excellent health. The stumps would have been improved by the removal of the ends of exposed bones, but the patient objecting strenuously, it was not done. They are, however, good average stumps, and will doubtless serve him a good purpose. Had Listerism in all its details been practiced in this case, the sloughing might *possibly* have been prevented. Yet with the severe and prolonged shock, and the depressed temperature of the entire body, especially the extremities, it is not probable the results would have been any better. In reviewing the case I have to regret

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that I did not allow more time to elapse previous to the first operation. In fact, am inclined to the opinion that had my patient not been subjected to the anæsthetic until time of last operation, and then operated synchronously, the results would have been better. The immersion in warm water might possibly have prevented the sloughing; it was discussed but not adopted. Under similar circumstances I would give it a trial.

The mortality attending amputations of the leg is about 34 to 38 per cent.—much larger than I thought previous to reference. Statistics in double amputations are so scarce that the rate of mortality has not, I believe, been established, but for reasons quite obvious, the death-rate would be much larger than in single amputations. Prof. Gross, in his most excellent treatise on surgery, in speaking of double amputations, says: "Experience shows that the operation when performed for gunshot injuries through both legs, knees and thighs, is nearly always fatal." Double amputation, followed by pneumonia, would necessarily render the prognosis more grave. I have been unable to find a case of the kind reported, hence I have no statistics to show its fatality.

Fresh eggs, unskimmed milk, good bread and rich soups, comprised the principal articles of diet in this case. The patient would not eat beef or mutton, and would only occasionally partake of fowl, fish and game. He relished bread, eggs and milk, frequently drinking four pints of the latter in twenty-four hours.

The history of the case is not full, but sufficiently so to indicate fully its character. The points of interest are—

1. The recovery from primary shock.
2. Survival of double amputation.
3. Pneumonia as a complication.
4. Continued shock; temperature not reaching normal standard till afternoon, the 27th.
5. Sloughing and recovery of stumps without re-amputation.
6. Recovery from the whole.

I am under obligations to Drs. Gwin, Curtis, McSwain and Sneed for material aid during the progress of the case.

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VALEDICTORY ADDRESS

Delivered before the West Tennessee Medical Society, at Martin, Tenn., May 3d, 1882,

BY J. P. M'GEE, PRESIDENT, OF TRENTON, TENN.

GENTLEMEN—This day terminates the period of my Presidency of the West Tennessee Medical Society; and whatever of sadness the hour brings is fully compensated by the hope that I shall be succeeded by some one more worthy—one who will bring to this chair more ability and efficiency, subserving better the interests of this Society—which are indeed the highest interests of the medical profession as well as the people of West Tennessee. Gratefully as I acknowledge, and much as I appreciate the kindness experienced elsewhere, nothing has given me more pride and satisfaction than the friendly relations brought about by this Society, and the honors received at its hands. Conscious, however, as I am, and have ever been, of my own deficiencies, I feel that I should not waste your time in comment upon them, especially as in doing so I should but give them greater prominence. I will therefore now, as I did in assuming the responsibilities of this chair, appeal to your kind indulgence.

When Cincinnatus was called to control the destinies of the dominant nation of the world, he was taken from a strangely shaped piece of timber which they called a plow—wooden plows with a single handle were, it seems, the best they had. Later they made them with two handles, and put a man to each. It required two men to blow a bellows. What a strangely plodding set of fellows the earth had then, compared to those who walk its surface now! When they traveled they walked—half clothed—or rode a horse or camel, or in slow, terrapin-like stages went. Motives were weak; the son contented walked in the footsteps of the sire. It took a week to send a letter across the State, and at least a month to cross a narrow ocean. The world seemed to repose in a sort of lazy dignity. Ambition hybernated, and man was satisfied with little learning. Few aspired to bold, grand objects, few kept vigil in that night of time; the rest were wrapped in intellectual slumber. The lightnings flashed ath-

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wart the heavens, producing terror, but no thought of use. Steam hissed and sputtered from the crevices in closed cooking utensils, no one dreaming of its power. Myriads of acres of coal lay undisturbed, no one knowing, thinking or caring that it contained oil and gas enough to illuminate the world. But lo! a change arouses the sluggish world! "Ambition's nap is o'er: awakening Genius leaves its kindred sleep." Franklin has, with kite, and cord and key, wrested from the very skies the secret powers of nature! Watt discovers that steam is force, and shows it to the world. Soon Fulton and Morse come into the arena to utilize these mighty forces. The elements yield up their dower and pliant lightnings on man's errands leap, and with steam and telegraph he triumphs over matter, space and time. A thousand steamers plow the mighty ocean—a thousand fiery coursers dash through forests, field and plain—man's iron-lunged, tireless slaves. Myriads of whispering wires—the wonder of the age—instantaneously speak forth his mandates across vast continents or through broad oceans! Or, at his behest the work is changed, and the very tones of voice are heard and recognized an hundred miles away. Or by this self same agent bits of carbon here and there are rendered incandescent, and in an instant a city is resplendent with light almost equaling the sun himself!

Man's triumph, who shall limit? What yet will he not do? Will he not drag down from the Polar seas the icebergs to cool the tropics? subdue earthquakes and volcanoes to do his will, and e'en transcend the wildest flight of thought? Will he not ride upon the tempest's wing to visit distant climes, scorning the tardiness of land or sea? May he not construct and grade electric shrouds and magnets with which to rig and guide some strange ærial ship, and in it almost visit the stars themselves?

The world has progressed. What of the physicians? Have they lingered in primeval darkness, or have they gone forward with the march of ages? Have they lingered, slowly dragging after, or have they kept full abreast—sometimes leading in the world's grand progress? They *have* kept pace, and well do we note the vast improvements and additions that mark the various stages of their progress. While medi-

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cine was wrapped in the swaddling cloths of mysticism for nearly a thousand years, a travail was going on of the most amazing kind—some would say of the most injurious, but they are wrong. In the passionate pursuit of the philosopher's stone were the seeds of the future slowly germinating. That phantom of the elixir of life is the step to a vast number of experimental attempts from which our science gains profit in spite of them. Even while everything seemed unmoving and wrapped in darkness, the schools of Arabia and Salerno on the one hand and the alchemists on the other, were at work adding vast multitudes of precious substances to the stores of the materia medica, as well as to medical science.

We Doctors aspire more than other men, besides being rather higher in starting. It has been well said—

> "Hippocrates and Galen were above
> All the Greeks and Romans of their time,
> Assimilated to the immortal Jove
> By benefactions reaching every clime;
> And down till rolling ages cease to move
> Their names shall be as bright as in their prime.
> The memory of the Cæsars may decay,
> But theirs are shrined in never-ending day."

Cast your eye along the horizon of the past—the brightest stars of science that deck the midnight skies that shrouded earth's vast empires in their woes, are ours. There proudly shines a Celsus, Averroes, Rhazes, and those who helped them keep the lights of science blazing, till brighter galaxies should rise, and star on star with radiant splendor glow. Haller, Stahl, Morgagni, Boerhaave, Bichat and a host 'twould take all day to call.

All along down the tide of years the science-galleries of fame are filled with great names. Ambrose Pare, Vanswieten, Sydenham, the Hunters, Bells and Gregories, Dupuytran, Larrey, Cooper, Lisfranc, Physic, Rush, Chapman, Wood, Gross, Flint, Lister, the elder and the younger Mott, Tyndall, Roberts, Pasteur and — we know not where to close the glorious list. And new hosts are rising even in our midst, before our eyes to-day, to fill the places of those who fall. Cradled in this, and kindred associations, who knows how many are being trained to outstrip all these venerable sages?

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Who knows how many Boerhaaves, Pares, Hunters, Harveys, Rushes, strong in intellectual might, are even here, among our members? The pride, the aspirations, and the power of medical men are to-day greater than ever before, with the advantage that we begin our work where our predecessors ended theirs.

The doctrine of evolution has changed the course of thinking in whole departments of science. The study by Leeuwenhœk, Ehrenberg, and others, of the most minute of living things, the vibrionidæ, with the developments of Pasteur, have given a truer form to one of the most important branches of organic chemistry, introduced a great beneficial change in a most practical branch of surgery, and is leading to one as great in the practice of medicine.

The advance of medical science in the recent past is amazing, whether reckoned as wonders of science unapplied, or in practical results in the lengthening of life, the decrease of pain and misery, and the prevention of disease. Great as has been the progress of medical science, let us not depreciate the past. "Many things, which, as we look far back, appear like errors, monstrous and uncouth creatures, were, in their time, good and useful!—as good as was then possible. They were the lower forms of truth, which amid the floods and stifling atmospheres of error still survived; and just as each successive condition of the organic world was necessary to the evolution of the next following higher state, so from these were slowly evolved the better forms of truth which we now have."

They were the best things that were in their time, and were necessary steps to the better present, even as the present is to the still better future, yes, the far better future; for there is nothing in nature more certain than is the upward, onward progress of science. "We may seem to move in circles, but they are the ever ascending circles of the spiral. We may seem to sway from side to side, but it is only as on a steep ascent which must be climbed zigzag."

I could not recount a tithe of what has been done, nor dare a surmise of what the future will unfold. Could we conceive a limit to the aggregated sum of mental power which will be possessed by well-instructed men of the future, "yet could

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we not conceive a limit to the discovery of properties which they will bend to their use, nor to the means they will adopt, or the instruments they will invent, which will be only a little more separated from our mental selves than are the outer sense-organs with which we are constructed."

How has the vast progress already attained been brought about? How are the mighty scientific reaches of the future to be gained? Let every man dutifully, patiently, thoughtfully do the best he can in the field of work in which by choice or chance his lot is cast. Let him at least search after truth, reflect on it, and record it accurately.

But in "works done by dissimilar and independent minds, in different fields of study, there are apt to be discord and waste of power." There is therefore need that the workers should from time to time be brought together for conference and mutual criticisms, for mutual help and free discussion. It is this we achieve by medical societies.

The best work of medical societies is not in the discussion of mere theories or doctrines or hypotheses, but in "clearing and strengthening the knowledge of realities; in bringing to bear from time to time the force of numbers and varieties of minds to press forward the demonstration and diffusion of truth as nearly to completion as possible."

Thus may *we*, humble as we are, contribute something to maintain and invigorate the life of our science.

Let us then resolve to devote ourselves with renewed earnestness and energy, to the promotion of the science, art and charity of medicine.

And when we shall separate, let us bear away with us, not only much more knowledge than we came with, but some lessons for our conduct in the future—always remembering the nobility of our calling—for I dare claim for it, in its present advanced state, that, among all the sciences, ours, in the pursuit and use of truth, offers the most complete and constant union of those three qualities which have the greatest charm for pure and active minds: novelty, utility, charity. Remembering too, that

> "We have a God-like mission to fulfill,
> And with it bring to all mankind good will."

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ABSTRACT OF AN ADDRESS ON VACCINATION IN RELATION TO CHICKEN CHOLERA AND SPLENIC FEVER.

Delivered at the International Medical Congress, London, by M. Pasteur, Paris.

BY W. B. WINN, M.D., MEMPHIS.

GENTLEMEN—I am happy to be able to bring to your notice a new advance in the study of micro-organisms as applied to the prevention of transmissible diseases; diseases which, for the most part, are fraught with terrible consequences, both for man and domestic animals. The subject of my communication is inoculation, in relation to chicken cholera and splenic fever, and a statement of the method by which we have arrived at the results—a method, the fruitfulness of which, inspires me with boundless anticipations.

Before discussing the question of splenic fever vaccine, which is the most important, permit me to recall the results of my investigations of chicken cholera.

It is through this inquiry that new and highly important principles have been introduced into science, concerning the virus or contagious quality of transmissible diseases. Let us take a fowl which is about to die of chicken cholera, and let us dip the end of a delicate glass rod in the blood of the fowl; let us then touch with this charged point, some *bouillon de poule*, very clear, but first rendered sterile under a temperature of about 239° F., under conditions in which neither the outer air, nor the vases employed, can introduce exterior germs—those germs which are in the air, or on the surface of all objects. In a short time, if the little culture vase be placed in a temperature of 77° to 95° F., you will see the liquid become turbid, and full of tiny micro-organisms, shaped like the figure 8, but often so small that under a high magnifying power they appear like points.

Take from this vase a drop, no more than can be carried on the point of a glass rod, as sharp as a needle, and touch with this point a fresh quantity of *bouillon de poule*, and the same phenomenon is produced. You deal in the same way with a third culture vase, with a fourth, and so on, to a hundred or even a thousand, and invariably, within a few hours,

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the culture liquid becomes turbid, and filled with the same minute organisms. At the end of two or three days exposure to a temperature of about 86° F., the thickness of the liquid disappears, and a sediment is formed at the bottom of the vase. This signifies that the development of the organism has ceased, and things will remain in this condition for a longer or shorter time, for months even, without either the liquid or the deposit undergoing change.

Let us now take one of our series of culture prepartions—the hundredth, or the thousandth, and compare it, in respect to its virulence, with the blood of the fowl which has died of cholera. In other words, let us inoculate under the skin, ten fowls, each separately, with a tiny drop of infectious blood, and ten others with a similar quantity of the liquid, in which the deposit has first been shaken up. Strange to say, the latter ten will die as quickly, and with the same symptoms, as the former; the blood of all will contain the same minute infectious organisms. This equality in the virulence, both of the culture preparation and the blood, is due to an apparently trivial circumstance; and here we have the cause of the equality. Let us now repeat exactly our successive cultures, with this single *difference*, that we pass from one culture to that which follows it, from the hundredth, say, to the hundred and first at *intervals* of one, two, three or ten months. If, now, we compare the virulence of the successive cultures, a great change will be observed. It will be readily seen, from an inoculation of a series of ten fowls, that the virulence of one culture differs from that of the blood, and from a preceding culture, when a sufficiently long interval elapses between the impregnation of one culture with the micro-organism of the preceding. More than that; by this mode of observation it is possible to prepare cultures of varying degrees of virulence. One preparation will kill eight out of ten, another five, another one, another none at all; although the micro-organism may still be cultivated. In fact, what is no less strange, if you take each of these cultures of attenuated virulence at a point of departure in the preparation of successive cultures, and *without* appreciable interval in the impregnation, the whole series of these cultures will reproduce the attenuated viru-

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lence of that which has served as the starting point. Similarly, where the virulence is null, it produces no effect.

How, then, are the effects of these attenuated virulences revealed in the fowls? They are revealed by local disorder; by a morbid modification, more or less profound, in a muscle, if a muscle has been inoculated with the virus. The muscle is filled with micro-organisms, which are easily recognized, as the attenuated ones have almost the bulk, form and appearance of the most virulent. The local disorder ceases of itself, more or less speedily, the micro-organism is absorbed and digested, if one may say so, and little by little the muscle regains its normal condition. Then the disease has disappeared.

When we inoculate with the micro-organism, the virulence of which is null, there is not even local disorder; the *natura medicatrix* carries it off at once, and here, indeed, we see the influence of the resistance of life, since this micro-organism, the virulence of which is null, multiplies itself.

A little further and we touch the principle of vaccination. When the fowls have been rendered sufficiently ill by the attenuated virus, which the vital resistance has arrested in its development, they will, when inoculated with virulent virus, suffer no evil effects, or only effects of a passing character. In fact, they no longer die from the mortal virus, and for a time sufficiently long, which in some cases may exceed a year, chicken cholera cannot touch them, especially under the ordinary conditions of contagion which exist in fowl-houses. At this critical point of our manipulation, that is to say, in the interval of time which we have placed between two cultures, and which causes the attenuation, what occurs?

I shall show you that in this interval the agent which intervenes is the oxygen of the air. Let us produce a culture in a tube containing very little air, and close this tube with an enameler's lamp. The micro-organism, in developing itself, will speedily take all the oxygen of the tube, and of the liquid, after which it will be perfectly free from contact with oxygen. In this case it does not appear that the micro-organism becomes appreciably attenuated, even after a great lapse of time. The oxygen of the air, then, would seem to be a possible modifying agent of the virulence of the micro-

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organism of chicken cholera; that is to say, it may modify more or less the facility of its development in the body of animals. May we not be here in the presence of a general law, applicable to all kinds of virus? What benefits may not be the result? We may hope to discover, in this way, the vaccine of all virulent diseases; and what is more natural than to begin our investigation of the vaccine of what we in France call *charbon*, what you, in England, call splenic fever, and what in Russia is known as the Siberian pest, and in Germany as the *milzbrand*?

At the outset of this new investigation I was met by difficulty. Among the inferior organisms all do not resolve themselves into those corpuscle germs which I was the first to point out as one of the forms of their possible development. Many infectious micro-organisms do not resolve themselves, in their cultures, into corpuscle germs. Such is equally the case with beer yeast, which we do not see develop itself, usually, in breweries, for instance, except by a sort of fissiparous production. One cell makes two or more, which form themselves in wreaths; the cells become detached, and the process re-commences. In these cells real germs are not usually seen. The micro-organism of chicken cholera, and many others, behave in this way; so much so, that the cultures of this micro-organism, although they may last for months without losing their power of fresh cultivation, perish finally like beer yeast which has exhausted all its aliments. The anthracoid micro-organism in artificial cultures behaves very differently. In the blood of animals, as in cultures, it is found in translucid filaments, more or less segmented. This blood, or these cultures, freely exposed to air, instead of continuing according to the first mode of generation, show at the end of forty-eight hours corpuscle germs distributed in series more or less regular along the filaments.

All around these corpuscles, matter is absorbed, as I have represented formerly in one of the plates of my work on the diseases of the silk-worm. Little by little all connection between them disappears, and presently they are reduced to nothing more than germ dust. If you make these corpuscles germinate, the new culture reproduces the virulence peculiar

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to the thready form which has produced the corpuscles, and this result is seen even after a long exposure of these germs to contact with air. Recently we discovered them in pits in which animals dead of splenic fever had been buried for twelve years, and their culture was as virulent as that from the blood of an animal recently dead.

Here I regret extremely to be obliged to shorten my remarks. I should have had much pleasure in demonstrating that the anthracoid germs in the earth of pits in which animals have been buried are brought to the surface by earth worms, and that in this fact we may find the whole etiology of disease, inasmuch as the animals swallow these germs with their food.

A great difficulty presents itself when we attempt to apply our method of attenuation by the oxygen of the air to the anthracoid micro-organisms. The virulence establishing itself very quickly, often after twenty-four hours, in an anthracoid germ which escapes the action of the air, it was impossible to think of discovering the vaccine of splenic fever in the conditions which had yielded that of chicken cholera; but was there, after all, reason to be discouraged? Certainly not. In fact, if you observe closely, you will find that there is no real difference between the mode of the generation of the anthracoid germ by fission and that of chicken cholera.* We had, therefore, reason to hope that we might overcome the difficulty which stopped us by endeavoring to prevent the anthracoid micro-organism from producing corpuscle germs, and to keep it in this condition in contact with oxygen for days and weeks and months. The experiment fortunately succeeded. In the ineffective *bouillon de poule* the anthracoid micro-organism is no longer cultivable at forty-five per cent. The culture, however, is easy at forty-two or forty-three per cent., but in these conditions the micro-organism yields no spores. Consequently it is possible it maintains in contact with the pure air at forty-two per cent. or forty-three per cent., a mycelian culture of bacteridia entirely free of germs. Then appear the very remarkable results which follow. In a month

*Reference is here made to M. M. Chamberlain & Roux who assisted in these investigations.

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or six weeks the culture dies. That is to say, if one impregnates with it fresh *bouillon*, the latter is completely sterile. Up to that time life exists in the vase exposed to air and heat. If we examine the virulence of the culture at the end of two days, four days, six days, eight days, &c., it will be found that, long before the death of the culture, the micro-organism has lost all virulence, although still cultivable. Before this period it is found that the culture presents a series of attenuated virulences. Everything is similar to what happens in respect to the micro-organism in chicken cholera. Besides, each of these conditions of attenuated virulence may be reproduced by culture; in fact, since the *charbon* does not recur a second time, each of our attenuated anthracoid micro-organisms constitutes for the superior micro-organism a vaccine—that is to say, a virus capable of producing a milder disease.

Hence, then, we have a method of preparing the vaccine of splenic fever. You will see presently the practical importance of this result; but what interests us most particularly is to observe that we have here a proof that we are in possession of a general method of preparing virus vaccine based upon the action of the oxygen and the air—that is to say, of a cosmic force existing everywhere on the surface of the globe.

I regret to be unable, from want of time, to show you that all these attenuated forms of virus may very easily, by a physiological artifice, be made to recover their original maximum virulence. The method I have just explained of obtaining the vaccine of splenic fever was no sooner made known, than it was very extensively employed to prevent the splenic affection. In France we lose every year by splenic fever, animals of the value of 20,000,000 francs. I was asked to give a public demonstration of the results already mentioned. This experiment I may relate in a few words. Fifty sheep were placed at my disposition, of which twenty-five were vaccinated. A fortnight afterward the fifty sheep were inoculated with the most virulent anthracoid micro-organism. The twenty-five inoculated sheep resisted the infection; the twenty-five non-inoculated sheep died of splenic fever within fifty hours. Since that time my energies have been taxed to meet the demands of farmers for supplies of this matter. In the

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space of fifteen days we have inoculated in the department surrounding Paris more than 20,000 sheep, and a large number of cattle and horses.

MODUS OPERANDI OF NARCOTICS.

BY F. W. VANCE, M.D.

Nervous energy is potentized in nervous protoplasm under the form of molecular organization force, and its evolution is synchronous with descent of the component molecules to a lower degree of organization.

Restoration of energy to protoplasm is effected through the vitalized elements of blood and is synchronous with ascent in molecular organization.

This alternate descent and ascent in molecular organization, with consequent evolution and restoration of energy, may well be defined as molecular motion. The necessary correlate of nervous activity is, then, molecular motion in the nervous protoplasm.

All elements which increase or diminish nervous activity or evolution of nervous energy, do so by increasing or diminishing molecular motion.

Narcotics are a class of drugs whose primary effect is to increase molecular motion in nervous protoplasm and afterwards to diminish that motion. Their fatal effects are due to complete suppression of molecular motion, which is death. This class of drugs exerts influence on the evolution of other forms of energy besides the nervous, as those forms of energy manifested in the muscular secretory and excretory systems, but whether the effects wrought on the protoplasm, or reservoir of energy of those systems is due to direct action on the secretory, excretory and muscular protoplasm, or indirectly through influence of the nervous, would be impossible to state.

Unlike special nervous sedatives, which only act on certain parts of the nervous system, as that part which evolves the circulatory energy, or upon but one class of nerves—afferent, efferent or nerve centers. This class of drugs acts on every mass of nerve protoplasm of the organism.

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Special sedatives, such as veratrum, digitalis, aconite, conium, etc., have no direct action on the higher or cerebral centers; psychical disturbance caused by those drugs is altogether due to their effect in disturbing the circulation of blood through the brain and their paralyzing effect on afferent nerves terminating in the psychical centers.

The increase of molecular motion, which is synchronous with nervous stimulation—the primary effects of narcotics—is due to a mobile condition of the nervous protoplasm, which is caused by change in molecular organization or arrangement of that matter by its partial union with the active element of the drug. The secondary effects of the drug—suppressed molecular motion, due to molecular immobility—is caused by complete union of the active principle and component molecules of the nervous protoplasm.

Molecular immobility or nervous insensibility, starts in the periphery and travels towards the centers, hence loss of consciousness of the external world while ideation is going on as the correlate of molecular motion in the cerebral centers where molecular immobility has not yet reached. The ideal is not modified by the real, for the senses are closed to impressions from without, and ideas which in the waking state would be perceived as ideal, are mistaken for realities.

By intensifying molecular motion in the psychical centers, which is the necessary correlate of ideation while the senses are shut to all impressions from without, ideas take vast and fantastic forms which are but exaggerations of those already existing latent in those centers. Molecular immobility, which is the secondary effect of narcotics, finally reaches the nervous centers, and then all nervous as well as psychical phenomena ceases.

NAPELLIN.—M. Labrode has discovered an alkaloid which he calls napellin in the mother liquor from which aconitin has been crystallized out. The alkaloid is amorphous and is soluble in water, ether, alcohol and chloroform. It is less poisonous than aconitin, and has been used in doses of five to six centigrams with much benefit in cases of neuralgia.

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Correspondence.

COTTON SEED IN SPASMODIC CROUP.

BRIGHTON, TENN., June 12, 1882.

I have been using cotton seed tea for spasmodic croup, and so far, successfully. Take a handful of seed, bruise them, boil in a quart of water for a few minutes, let stand a short time, strain, sweeten, and when cool enough, give the patient all it will drink, or if necessary, pour it into the child. The relief is generally prompt, and sometimes without emesis. If persisted in, it produces free emesis.

I have used it twice, beneficially, in humoral asthma. Test it, and I hope you will not be disappointed. I have a child subject to croup, and in two attacks I despaired of his life, now I have no trouble with him. As soon as he is taken I resort to the cotton seed tea, and nothing else. I have recommended it frequently and all have reported favorably.

GEO. L. GRAY.

SHELBYVILLE, May 29, 1882.

JULIUS WISE, M.D.—*Dear Doctor:* I have just read your remarks on the Tennessee Medical Society, with the tenor of which I agree, especially on the Board of Health and the special privileges accorded it. Indeed, I sometimes think that in the excessive devotion to sanitary medicine, there is danger of therapeutics being ignored or forgotten entirely. I think we are about as ignorant of the true cause of yellow fever and any certain means of arresting its course or preventing the spread of it, as we were before the expenditure of so much money and so great an exhibition of red tape. When the lamented Wight was traveling round, he admitted there was nothing certain pertaining to yellow fever. And you doubtless recollect the remarks of the late Prof. Warren Stone, after having spent a lifetime in the midst of it, "that when he heard a man say he knew anything about yellow fever, or the cause of it, he set him down as a knave or a fool, one."

The Society, I see, at its late meeting, assigned me a chair-

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manship of a committee. Of course I did not expect this; but I recognize the fact that, now especially, there is need for every member doing his duty, and I shall try to discharge mine. With this intention, I have already written to each member of the committee, requesting prompt and efficient co-operation, that we may not fail to do our part in restoring the Society to at least its former prestige and give increased interest to the annual meeting. I regret now that I failed to attend the last meeting in your city. I agree with you fully in your remarks relative to the necessity for additional accommodations for the insane, as well as its greater importance, than this continued flourish of trumpets about boards of health and exhibition of red tape, etc.

Taking the mistake of last year in meeting and then adjourning to meet again, and then the small attendance this year, and consummating what has given offence to the faculty of medical department of University of Nashville and Vanderbilt, the future outlook of the Tennessee Medical Society is not flattering, but the reverse. But enough.

Yours truly, THOS. LIPSCOMB.

HOT SPRINGS DOCTORS.—Now, let me say there are many physicians here who *pay* for all the patients they get. They have no professional standing in the community, and employ the hotel drummers to bring them business, giving fifty per cent. of what they get to the "roper" or "steerer." These hotel drummers are the sharpest men in the town, and are excellent judges of human nature. When they get a visitor to their boarding-houses, they find out what doctor the man desires to consult, and then tell him that the doctor is either dead, moved away, a drunkard, or will make any other false representation that may suffice to hoodwink the victim for a few hours, or until they have an opportunity to "show him around the town" and sell him to some drumming doctor. I would suggest to all who read this article that they give to their friends who may visit this place a note of introduction to some respectable resident physician here. We certainly have at least a dozen good reputable men in the town who would be an honor to the medical profession anywhere.—*T. T. Jelks*, M.D., *in Atlanta Medical Register.*

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Medical Societies.

MEETING OF TIPTON COUNTY MEDICAL SOCIETY.

COVINGTON, TENN., May 27, 1882.

Society met at 1 P.M. Dr. G. B. Gillespie, President, in the chair, and the following members were present, viz: Drs. Roan, Jackson, Richardson, Walton, Shoaf, J. R. Bartlett, L. Hill, jr., and A. L. Elcan.

On motion, the minutes of the last meeting were read and approved.

This being the annual meeting, the treasurer was called upon for his report, which was read and adopted, showing the finances of the Society to be in a healthy condition.

On motion of Dr. T. W. Roan, the Society then proceeded to the election of officers for the ensuing year, which resulted in the election of Dr. G. T. Gray, President; Dr. W. H. Hill, 1st Vice-President; Dr. M. H. Jackson, 2d Vice-President; and Dr. A. L. Elcan, Secretary and Treasurer.

On motion of Dr. G. B. Gillespie, the Society resolved to hold annual and semi-annual meetings on the first Tuesday in May and December of each year, in addition to the regular monthly meetings, and, as a special feature of these meetings, we will hold morning, afternoon and evening sessions, at which sessions, essays will be read by members appointed for that purpose.

On motion of Dr. T. W. Roan, the following resolution was passed:

Resolved, That at our annual and semi-annual meetings in May and December, all physicians in the county be cordially invited and entreated to attend with the members of this Society, and participate in any discussions and deliberations, with the intent of arousing interest among all classes in the work of this Society, and that the public may thus be enabled to learn the good we propose to do our clients.

The committee on selection of subjects for discussion, reported "Burns," for discussion at the next monthly meeting, with Drs. Jackson and Richardson as leaders, and the following list of essayists for the semi-annual meeting on the first Tuesday in December next, viz: Dr. M. Bell—subject,

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Quinine as an antipyretic; Dr. G. B. Gillespie—subject, Typhoid Fever; Dr. L. Hill, sr.—subject, Action of the ganglionic system in diseases; Dr. J. R. Bartlett—subject, Use of the cold pack in inflammatory diseases; Dr. L. Hill, jr.—subject, Science of pharmacy; Drs. A. L. Elcan, W. H. Walton and J. H. Shoaf, were left to select their own subjects.

On motion of Dr. T. W. Roan, a vote of thanks was tendered the President and Secretary for the faithful and efficient manner in which they have discharged their respective duties.

On motion, the Society adjourned to the fourth Tuesday in June, 1882, at 10 o'clock A.M.

G. B. GILLESPIE, M.D., *President.*

A. L. ELCAN, M.D., *Secretary.*

ANALOGUES OF PTOMAINES.—We called attention, not long since, to those peculiar substances called *ptomaines*, which have effects very similar to the alkaloids. It has lately been ascertained by Bechamp, that products having many analogies with ptomaines exist in the gastric and pancreatic digestion of many albuminoid matters. They are formed in the course of the normal digestion of these albuminoids, and are found to react with chemical agents in a similar manner to ptomaines, and to possess the same toxic activity. The importance of these discoveries, from the toxicological point of view, is certainly very great. In testing for the alkaloids in cases of poisoning, and in the experiments on animals to determine their physiological actions, the great question of the future will be, how to differentiate between them and ptomaines.—*Medical News.*

VOMITING OF URINE.—Generali and Tovini report in the *Cronica Medico Quirurugica de la Ebana*, a case of a lady who had inflammation of the lung, following which she had an attack of peritonitis with serious effusion into the peritoneal cavity. The patient had a sudden decrease of urine, and at the same time vomited a fluid looking like urine; a chemical analysis was instituted and the fluid was found to contain urea, phosphates, chlorides, alkaline sulphates, magnesia phosphates, carbonic acid and pigment. Microscopically, epithelial cells from the stomach and œsophagus, mucous, and crystals of uric acid. As long as the urine was discharged in this way, not a drop could be obtained from the bladder. After one month the patient recovered.—*Journal de Medicine de Paris.*

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Selected Articles.

RECENT RESEARCHES ON BACTERIA—I. KOCH'S METHODS OF INVESTIGATING PATHOGENIC BACTERIA.

The prominent part played by micro-organisms in the production of disease, and the necessity for the minute study of their life-history, is now almost universally admitted. Their relations to surgery—more especially to the progress of wounds, and also to many diseases which come under the care of a physician—are of the utmost importance; but in no department of medicine is a thorough knowedge of these minute creatures more requisite than in that of sanitary science. The evil effects of bad sanitation, and the spread of infectious diseases, are closely associated with the growth of bacteria; while the onset and progress of fevers strongly suggest the entrance into the body and development there of some particle capable of indefinite self-multiplication. For several years observers have been making experiments on the relations of bacteria and infective diseases, but in only a very few instances have definite and positive results been obtained. This failure is now shown to have been due to the use of imperfect methods of observation and research; and it was not till the appearance of the first writings of Dr. Koch, now of Berlin, that a definite basis for such observations was obtained. Dr. Koch has of late done some striking work, and within the last few weeks has published some remarkable experiments on tuberculosis. He is a worker on whose observations and accuracy the most implicit reliance can be placed, and those who have had the pleasure of seeing him at work will hesitate before they find fault with his statements. The place which has been taken in this question by Pasteur with reference to surgery, is now worthily occupied by Koch in reference to infective diseases and sanitary science.

In the recently published *Mittheilungen des Kaiserlichen Gesundheits-Amtes*, Dr. Koch writes a number of papers on the most recent work which he has been carrying on, the first of which, "On the Investigation of Pathogenic Bacteria," we propose to consider in the present article. In studying the bacterium, from a sanitary point of view, we have first to determine whether or not it be pathogenic, then whether it be infective, and on what animals, then the mode in which it enters the body, its behavior outside the body in air, water, earth, etc.; and lastly, the influence exercised on it by various antiseptic substances.

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In the first place, in determining whether an organism be pathogenic or infective, its presence in the blood and tissues of the body must be demonstrated. In reference to this question, Koch discusses the possibility of the existence of micro-organisms in the tissues of the healthy living body, and denies their presence, both from his own observations and from those of other writers. The methods by which the presence of micro-organisms in fluids and tissue are demonstrated, were published years ago by Koch in Cohn's *Beitrage zur Physiologie der Pflansen*, and are now so well known as to need no description. Some improvements have, however, been introduced since. The fluids are dried in a thin layer on a cover glass, and, instead of being then stained, as at first recommended, they are either placed in alcohol for some days, or they are raised to a temperature of 130° Cent. (248° to 260° Fahr.) for a few minutes. This coagulates the albumen, fixes the specimen to the cover glass, and prevents the precipitation of albumen and granules of anilin which occurred during the staining of specimens prepared in the old way. By this means only bacteria and nuclei are stained, the rest of the material remaining beautifully transparent and unaffected, while specimens can be examined a few minutes after their removal from the body. The objection to the method is that the bacteria are somewhat altered in thickness and size; but, if only specimens prepared in this way be compared, this alteration is of no material consequence. For most things, Koch now recommends the methylin blue introduced by Ehrlich, in preference to the methyl violet formerly employed. For photography, however, the brown stains must still be used. The method of staining sections of tissue has been recently published by the Sydenham Society in their translation of Koch's "Traumatic Infective Diseases," and requires no description. A point of importance is, however, that different forms of organisms take different stains best, and therefore it is not sufficient to examine sections stained by methyl violet alone; other stains must be employed. Thus the spirillum of relapsing fever will not stain in the tissue with methyl violet at all, and can only be found in sections stained with anilin brown. The material which seems to stain the greatest variety of organism is the gentian violet lately introduced by Weigert. By keeping the staining material at a temperature of 40° to 50° Cent. (104° to 122° Fahr.) the specimens are much more rapidly colored than at the ordinary temperature.

The presence of a particular form of organism having been discovered in the blood and in the tissues, it remains to be seen whether this is pathogenic or not. This is tested by the

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introduction of material containing the organism into the body of a suitable animal—if possible, of the same species. The most frequent mode in which this is done is by inoculation, where the minutest quantity is placed in contact with a scratch which does not pass through the whole skin. This inoculation must be carefully distinguished from introduction into the subcutaneous tissue; for some forms of organism differ in their effects, according as they are merely inoculated or subcutaneously injected. Distinct from these, again, we have the injection into the veins. Of course all instruments employed must be thoroughly disinfected; and for this purpose, prolonged heating at 150° Cent. is best.

The most important of these investigations is, however, the pure cultivation of the bacteria found in the foregoing manner in the body. So long as infection is only produced by the fluids of the body, it is always open to objection that the bacteria are only accidentally present, and that the true cause of infection is some mass of protoplasm or fluid derived from the body. But if the bacteria can be grown on a variety of substances apart from the body, and if it be found that their introduction into the body after being in this way separated from the original animal material, is still followed by infection, the presumption is very strong that they are the cause of the infection. The methods of cultivation in fluids have attained great precision, more especially in this country; but it is often difficult to get these organisms pure in the best instance, and, if more than one kind of bacteria enter a fluid, it is almost impossible to separate them again. Indeed, the only way in which this has been done is by the elaborate process described by Mr. Lister, in his paper on "Lactic Fermentation." Dr. Koch, in cultivating pigment-bacteria on bacteria, observed that, even though other forms of organisms fell on the potato, they only grew where they fell; and thus, in spite of the presence of other forms, the variety under consideration could always be obtained, and remain pure. Hence he concluded that, if pathogenic bacteria were placed on a suitable *solid* soil, they could be kept pure for an indefinite time. In order to obtain a solid material, he adds from three to five per cent. of gelatine to the infusion or other substance with which he is experimenting. He thus gets a substance which can be clarified, and any organism placed on it grows, and its mode of growth can be observed under the microscope. If any accidental growth, it only spreads at one point, and fresh material can be inoculated from a pure part without risk of contamination. Also, if in any material there be two sorts of organisms, they can be separated from each other by

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making the gelatine liquid, and shaking it well. In a few days small opaque spots will be observed throughout the gelatine, and these will be found to consist often of one or other form of organism alone. Fresh gelatine may be inoculated from one of these spots, and the organisms obtained pure. Thus water, milk, etc., may be investigated, and the pathogenic properties of the various forms of organisms which are found may be ascertained by experiments on animals. By exposing a vessel containing gelatine to the air for a given time, the various forms present in that specimen of air will grow at different points on the surface of the gelatine, and may be examined separately.

The importance of this method of cultivation is very great. The chief objection to it is that the gelatine becomes liquid at the temperature of the body, and thus the advantage of the solid substratum is lost when it is necessary to keep the cultivation at the temperature of the body. This difficulty has been recently to some extent overcome.—*British Medical Journal.*

THE PLETHYSMOGRAPH.

This is an apparatus for detecting the variation in the size or dilation of a body. For example, by its use the dilation or contraction of the human hand, arm, or other organ can be ascertained. The hand or organ to be tested is placed in a vessel containing a liquid. Connected with the vessel is a test-tube, a stylus, rotating cylinder, etc.

At a meeting of the Massachusetts Institute of Technology, Dr. Bowditch proceeded to exhibit this use of the instrument. For this purpose an assistant placed his arm in the apparatus, and the arm was then surrounded by water heated to a blood heat. The connections having been made, Dr. Bowditch waited until the style was describing a line nearly horizontal, and then directed the assistant to multiply twenty-three by seventeen in his head. As soon as he began to think this out the style rose rapidly and remained up until he had finished the computation, when it fell, thus showing that during this process a certain amount of blood had rushed away from the arm. When the style began again, after a minute or two, to trace a line nearly horizontal, the assistant was directed to multiply thirteen by twelve. During this process the style rose, but not nearly as much as in the former case, showing that a smaller quantity of blood left the arm in this case than in the preceding.

Dr. Bowditch then related the story that a friend of Prof. Mosso, who claimed that he could read Greek as easily as he

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could Italian, had his arm placed in the apparatus by the professor, who presented him successively with an Italian and Greek book to read. While reading Greek the style rose very much more than while reading Italian, and thus the instrument demonstrated that the friend was mistaken in regard to his powers, and that it was much easier for him to read Italian than Greek.

In answer to a question as to whether it could be used to study the effect of digestion, Dr. Bowditch replied that it probably could, but the fact that digestion was exceedingly slow might present a difficulty.

In answer to some other questions, Dr. Bowditch said that the results shown by the instrument in its present state of advancement are purely qualitative, and that no quantitative determinations have been made; also, that, because we have a certain amount of blood leaving one arm during a mental process, it would not be safe to assume that the same amount left the other arm, or even to assume that the amounts of blood leaving one arm during certain mental processes were proportional to the amounts leaving the whole body.—*American Medical Weekly.*

INFECTIVITY OF SCARLET FEVER.

At a meeting of the "Society of Medical Officers of Health" (*British Medical Journal*), Dr. Alfred Carpenter read a paper on some of the causes which increased or modified the infectivity of scarlatina. He considered that a long period of quarantine—such as eight or ten weeks, and sometimes four months—was to be deprecated in the case of children recovering from scarlatina; he himself, for many years, had isolated cases for a fortnight, and in some instances for a week only, after the departure of the fever, and he had never heard of any evil results accruing from such a course. He next mentioned various cases in large schools, which served to explain his views as to the causes of scarlatina. The first outbreak of which Dr. Carpenter made mention was, in his opinion, entirely caused by a cess-pool situated in the school-yard, which was the recipient of washings from a slaughter-house; and, once a week at least, the aerial contents of this cesspool were displaced into the closets of the boys, situated in close proximity to it. As soon as the cesspool was emptied, and drains properly directed into the sewer, scarlatina ceased to appear in the school. Want of proper ventilation in the soil pipe and drains belonging to the building caused an outbreak of scarlatina in another school—the drains being in direct com-

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munication with the main sewer of the district, and scarlatina being also at that time very prevalent in the neighborhood. Dr. Carpenter believed that the nature of the blood into which the poison was received aided more materially in increasing the mortality from scarlatina than the character of the poison itself; and in support of this theory, he instanced two outbreaks of this disease, in one of which the mortality had been excessive, fourteen persons having died out of seventy-five who were attacked; and in the other outbreak, only three deaths occurred, though the total number of cases was one hundred and eight. Dr. Carpenter attributed this difference in the mortality to the surroundings of the children; in the one instance, the conditions were, on the whole, healthy; while in the other, the children were exposed for a much longer period to an impure atmosphere, and were badly cared for at home. The cause of the two outbreaks were similar in character; the excreta of the first case of scarlatina, in each school, passed down unventilated drains, which communicated directly either with class-rooms inhabited by the children, or with closets used by them. In conclusion, Dr. Carpenter said that he believed scarlatina more often arose from sewage emanations or from sewage contaminated with scarlatinal germs, than from personal contact. He considered that, in many cases where the cause of the disease had not been discovered, it might have been found, on careful investigation, to proceed from some accidental inhalation of sewer air; and that persons who were constantly exposed to such an atmosphere were liable to more severe attacks of scarlatina and diphtheria than those who inhaled the poison for a short period only. Dr. Carpenter also suggested that the discharge of hot water and waste from steam engines into the sewers is a source of danger, in producing scarlatina and diphtheria.

VENESECTION.—That the disciples of Broussais carried venesection to an enormous excess, there can be no doubt, and this had two very natural results. Venesection fell into desuetude and numerous quackish systems of medicine rode into public favor over the popular prejudice raised by the downfall of the school of Broussais. The question is, however, now being asked by many thoughtful physicians, whether by the disuse of venesection the profession has not lost a very potent and valuable therapeutic agent. Dolan (*Review*, Vol. IV, p. 395) has made some very moderate claims for its use in cases of internal inflammation, in which a direct capillary circulation exists between the skin and the part affected. Dr. Dunn (*Boston Medical and Surgical Journal*, May 11, 1882,) claims

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that despite the abuses of former days, venesection has sufficient merits as a therapeutic agent to demand earnest consideration, and should be had recourse to in carefully selected cases. In febrile attacks, loss of blood will lower the temperature, and this decrease is disproportionate to the amount of blood lost. Venesection does not diminish the amount of blood but renders it more watery, whereby the pulmonary circuit is promoted and the functional labors of the lung are diminished. The pulse is not a criterion of the amount of blood to be removed. These opinions were supported in an ensuing discussion by Drs. Bowditch and Harlow, and are in full accordance with the previously expressed opinions of Richardson and others.—*Medical Review.*

MANSON ON QUININE AS AN OXYTOCIC.—From an experience of forty years in the treatment of malarious fevers, we are confident that M. Petit Jean mistook a consequence of the intermittent fever for a result of the action of quinine. At the commencement of our career, when we were timid in using quinine, abortion was no uncommon occurrence in pregnant women attacked with the various types of periodical fever, and to whom no quinine had been given. It is a frequent occurrence in fevers of all descriptions, and the female may consider herself fortunate in passing through the commotion of any fever without a premature expulsion of the fœtus. Since we commenced to employ quinine in liberal, yet reasonable doses, in paroxysmal fevers, we have *never* observed abortion in patients affected with them. We should reasonably suppose that an agent which, when properly administered, would prevent the convulsive rigors of the cold stage, and the high febrile excitement of the exacerbation which follows, would be the best means of preventing abortion in those subject to such violent disturbing influences, a hypothesis which extensive observation has fully confirmed.—*Dr. Otis Manson, Trans. Va. Med. Soc., 1881.*

DRY CLOSETS. — Mr. James Hain, Wereford, Eng., strongly advocates the "dry closet" as preferable to any system of sewerage irrigation or precipitation. The pails which are set in these dry closets for the reception of the excreta are partly filled with peat dust and pulverized coprolite, i. e., tricoleic phosphate. Burned bone, which is of the same composition, is better than the native mineral as an absorbent and deodorizer, but it is also much more expensive. The contents of the pails when removed are treated with oil of vitriol, which renders the phosphoric acid mostly soluble and thus fits the whole mass for fertilizing purposes. By thus utilizing the

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excreta, it is thought that the system will become self-supporting. The above method appears to be the most promising yet proposed for the successful removal and use of human excreta.—*Medical Review.*

TO KEEP THE HYPODERMIC SYRINGE IN ORDER.—Some months ago I noticed in some periodical, the statement that a few drops of glycerine placed in a hypodermic syringe would prevent, measurably, the shrinkage of the piston packing when the instrument was not in use. I suppose that many physicians have felt the need at times of having such instrument in immediate working order. I know that I had, until I accidentally discovered the good influence of the glycerine in that respect. I have long been in the habit of drawing into the barrel each time after use, a small quantity of a mixture of one part of distilled water to three parts of glycerine, allowing it to remain until the instrument is wanted for use, with the advantage of having it always in a serviceable condition. *Dr. Wills* in *Peoria Medical Monthly.*

BATHS FOR THE NEWLY BORN.—Dr. F. Winckel, of Dresden, (*Central. f. Gynakol*, January 17, 1882,) makes the novel suggestion of keeping certain newly-born children permanently in warm water. This he considers more useful than rolling them in cotton wool, applying warm bottles, and keeping them in warm rooms. The following abnormal conditions are mentioned as being suitable for the permanent bath: 1. Children born between the 28th and 36th weeks. 2. Children born asphyxiated and weak from flooding during labor, or who have accidentally lost blood from the stump of the cord. 3. Where there is disease or fretting of the skin. 4. In emaciation, to prevent bed sores. The author has employed this treatment successfully in cases such as those above mentioned, and gives details of temperatures and results.

GONORRHŒA.—Dr. Cheyne claims that gonorrhœa is produced by specific organisms, which have a definite period of incubation. Iodoform, 5 grains, and oil of eucalyptus, 10 minims, mixed with cocoa butter, 40 grains, to form bougies of the size of No. 9 or 10 catheters, acts as the best parasiticide. Treatment by this method has been very successful.—*Leonard's Medical Journal.*

DISINFECTION OF URINE.—Dr. Curtis, in the *Medical Annals*, states that chloral hydrate, five grains to the ounce of urine, will keep it perfectly for an indefinite period. Both chemical and microscopical examinations made months after show no change.—*Medical and Surgical Reporter.*

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SULPHIDE OF CALCIUM AS AN ANTISUPPURATIVE. — Dr. Andrew H. Smith, Chairman of the Committee on Restoratives of the Therapeutical Society of New York, furnishes to the *New York Medical Journal and Obstetrical Review*, for June, 1882, a report of the committee on the use of sulphide of calcium for the purpose of preventing or diminishing suppuration. After giving the experience of several members of the society, Dr. Smith concludes his report as follows: Judging from this limited number of cases, it would seem that we are warranted in concluding that in many cases of suppurative affections, ranging from the small pustules of acne to extensive suppurating surfaces, an appreciable, and often a very marked, benefit is derived from the use of the calcium sulphide, suppuration which would otherwise take place being averted, or the quantity and duration of an existing discharge being lessened. At the same time its action is not uniform; and in many apparently favorable cases it will fail entirely. The drug is somewhat prone to irritate the stomach, and this circumstance affords an indication for small doses frequently repeated instead of larger ones at longer intervals. One tenth of a grain every two hours in acute cases will generally secure the full therapeutical action of the drug, but larger doses may sometimes be required, and some patients will bear well a grain three or four times a day. Even in small doses the sulphide will occasionally produce headache, and the patient is usually more or less annoyed by eructation of sulphuretted hydrogen.

A NEW VESICANT.—Dr. Jose Armengue, of Barcelona, has lately brought to the notice of the profession a new vesicant, which in many respects would appear to be far superior to cantharides. The new material is derived from *Œnas afer*, a coleopterous insect, which at certain seasons of the year appears in enormous quantities in Spain. From experiments which Professor Armengue has instituted, he is led to claim for the *Œnas afer* as a vesicant, the following advantages over cantharides: it is cheaper; it acts without appreciable pain; it is equally powerful; and does not effect the genito-urinary system. If its non-inflammatory action can be established by further experiment, the *Œnas afer* will be a valuable addition to the materia medica.—*Lancet and Clinic.*

A CHICAGO professor stated in a lecture that he had noticed that in sterile women the hair on the Mons Veneris was always straight. The professor was rather surprised by the inquiry of a student, whether curling the hair would cure the sterility. Fact.—*Peoria Medical Monthly.*

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INSANITY IN CHILDREN.—Dr. Magnan (*Journal de Medecine et de Chirurgie Practiques*, April, 1882,) reports a case of insanity in a child four years old, marked like most cases of insanity in children by hallucinations, and attempts at suicide. The child, a boy, was born in Paris during the siege of 1870, and the paternal grandfather and uncle died insane. The father became insane at the age of twenty-eight, and entered the asylum at the same time as his child. The child was markedly melancholic on admission.—*Medical Review.*

PROLONGED GESTATION.—Dr. Lewis A. Rodenstein (*New York Medical Journal*, May, 1882,) reports four well established cases of prolonged gestation. In the first case, gestation occupied a whole year; in the second case, three hundred and twenty-one days; in the third case, three hundred and thirty-five days; in the fourth case, three hundred and fifty days. These cases tend very strongly to support the justice of the French law, that the legitimacy of a child born within three hundred days after the death or departure of the husband, cannot be questioned.—*Medical Review.*

ERGOT IN DIABETES.—Professor Da Costa reports six cases of diabetes insipidus treated with ergot with five recoveries. The remedy is given in the form of fluid extract and not less than three fluid drachms per day, and this amount should be gradually increased to double its quantity. It may be well to follow the ergot, after the amount of urine has been reduced to the normal, with strychnia. In other cases where the ergot must be continued for some time, cod-liver oil is a good adjunct.—*Medical News.*

DELIRIUM FROM SALICYLIC ACID.—Dr. Charles C. Barbows (*Medical Record, April 29, 1882,*) reports eight cases of delirium from salicylic acid. The patients became delirious after about two days' treatment. The delirium, as might have been anticipated, markedly resembles acute alcoholism; sometimes it has passed into mania transitoria. Similar cases have been reported in the *British Medical Journal, January 29, 1881*, and by Bogdanow (Wratch No. 12, 1882). This property of salicylic acid has been hitherto much ignored.—*Medcal Review.*

ELECTRICITY does not penetrate the dark as readily as the fair skin, and so to apply electricity to the negro it is necessary to use a proportionately stronger current.—*Med. Times.*

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MINUTES OF THE SEVENTH ANNUAL MEETING OF THE STATE MEDICAL SOCIETY OF ARKANSAS,

Held in Little Rock, May 31 and June 1, 1882.

The Society met at the hall of the House of Representatives at 10 o'clock A.M., and was called to order by Dr. J. H. Southall, Chairman of the Committee of Arrangements.

The following officers were present: President—Dr. R. G. Jennings, of Little Rock; Vice-Presidents—Drs. D. C. Ewing, of Batesville, and H. H. Turner, of Ozark; Secretary—Dr. L. P. Gibson, of Little Rock; Assistant Secretary—Dr. E. Meek, of Argenta; Treasurer—Dr. A. L. Breysacher, of Little Rock; Librarian—Dr. John Waters, of Little Rock.

The session was opened with prayer by the Rev. Horace Jewell.

Dr. Hooper rose to a question of privilege and said, before the Committee on Credentials reported, he desired to state that at the meeting of the Society in Fort Smith several members were expelled. Among the number was Dr. O. A. Hobson, of Hot Springs, who had authorized him to say that what he had done, and for which he was expelled, was not done with any intention of violating or evading the code of ethics, but was the result of ignorance as to the provisions of the code. That he is willing to make any amends which the Society may deem adequate, and that he now makes application to become a member of this Society.

Dr. Hawkins moved the application be received.

Dr. Hooper moved as an amendment that it be referred to a special committee of three members, who shall decide what is necessary to be done in order for Dr. Hobson to become a member of the Society.

Dr. Lenow moved as a substitute for both motions that the application be referred to the Judicial Council.

Dr. Hooper opposed the reference to the Judicial Council.

Dr. Dibrell, jr., was opposed to reference to either the special committee or Judicial Council. All that is necessary is for the application to be referred to the Committee on Credentials, and take the same course as any other application.

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Dr. Hooper withdrew the motion to refer to a special committee, and on motion of Dr. Folsom the application of Dr. Hobson was referred to the Committee on Credentials.

The Secretary read the report of the Committee on Credentials, which included the following list of registered delegates, permanent members, and applicants for membership:

DELEGATES.

Bi-County Medical Society (Pulaski and Saline)—G. C. Head.

Boone County Medical Society—A. J. Vance.

College of Physicians and Surgeons of Little Rock—G. C. Hartt, J. H. Lenow, S. J. Morrison, T. E. Murrell, L. R. Stark, John Waters.

Faulkner County Medical Society—E. O. Brannon, G. C. Brown.

Franklin County Medical Society—J. F. Blackburn, J. R. Brewer, H. H. Turner.

Fort Smith Medical Society—J. E. Bennett, J. W. Price.

Hempstead County Medical Society—G. M. D. Cantrell, A. N. Carrigan, J. P. Witherspoon.

Independence County Medical Society—D. C. Ewing.

Jefferson County Medical Society—E. H. Alexander, T. H. Newland, J. F. Simmons.

Lawrence County Medical Society—Z. Orto.

Lee County Medical Association—P. C. West.

Little Rock and Pulaski County Medical Association—J. R. Colburn, R. W. Lindsey, J. H. Southall.

Logan County Medical Society—T. D. Nichols.

Nevada County Medical Association—J. D. Jordan, D. J. Prather.

Ouachita County Medical Society—G. W. Hudson.

Prairie County Medical Society—A. B. Loving.

Texarkana Medical Association—W. H. Hawkins, D. S. Williams.

VanBuren Medical Society—J. A. Dibrell, sr.

Washington County Medical Association—D. Christian, R. B. Gladden.

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PERMANENT MEMBERS.

Pulaski County—E. Bentley, U. S. A., A. L. Breysacher, W. A. Cantrell, R. B. Christian, Edward Cross, J. H. Dibrell, jr., D. H. Dungan, L. P. Gibson, P. O. Hooper, R. G. Jennings, J. J. McAlmont, E. Meek, Wm. Thompson, C. Watkins.

Garland County—J. M. Kellar.

Lonoke County—Isaac Folsom.

APPLICANTS FOR MEMBERSHIP.

Baxter County—R. C. Wallis.

Boone County—A. J. Vance.

Crawford County—J. A. Dibrell, sr.

Columbia County—W. H. Hardison.

Faulkner County—E. O. Brannon, G. S. Brown.

Garland County—Julian Feild, O. A. Hobson, J. T. Jelks.

Jefferson County—E. H. Alexander, T. H. Newland.

Lee County—P. C. West.

Lonoke County—R. N. Ross.

Nevada County—J. D. Jordan.

Pulaski County—F. L. French, D. A. Gray, G. C. Head, R. W. Lindsey, J. R. Witherspoon.

Pope County—W. H. Hill.

Sebastian County—J. W. Price.

Washington County—D. Christian, R. B. Gladden.

On motion of Dr. Lenow the list as read was accepted.

The Society then proceeded to ballot on the applications for membership, and all the applicants were duly elected members of the Society.

The Committee on Arrangements reported a programme for the entire session.

On motion of Dr. Kellar the calling of the roll and reading the minutes were dispensed with.

At 11 o'clock A.M. Dr. J. H. Southall introduced Dr. R. G. Jennings, the President, who proceeded to read a very able, thoughtful and suggestive address, which, owing to the late date at which we received the report, and lack of space, we regret we cannot publish.

The Secretary read the amendment offered by Dr. Hippolett, at the last annual meeting, viz.:

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(1) Amend last clause of section 3, Constitution, by striking it out and substituting the following: "All members present, whether delegates or permanent members, shall be entitled to an equal participation and voice in the deliberations of the Society, and to one vote each upon all questions. The basis of representation shall be one vote for each five members of the Society represented, and one vote for the fraction over five."

Dr. Turner moved to adopt the amendment.

Dr. Hooper moved to lay the motion of Dr. Turner on the table. Carried.

The resolution introduced by Dr. Welch at the sixth annual meeting was then read, as follows:

Resolved, That the Committee on Vital Statistics be abolished.

Dr. Hawkins moved to lay the resolution on the table. Lost.

Dr. Southall moved to adopt. Carried.

Adjourned till 2 P.M.

AFTERNOON SESSION.

At 2 o'clock the President called the session to order, and announced the appointment of Drs. Carrigan, Folsom, Ewing, Murrell, Nichols and Turner, to fill vacancies in the Judicial Council caused by the absence of Drs. Welch, Stayton, Linthicum, DuVal, Dale and Hurley.

The Committee on Scientific Communications reported, through its chairman, Dr. Dibrell, the following papers for presentation and reading:

Insanity and Insane Asylums, Dr. P. O. Hooper.

Malarial Poison, Cause of, Dr. Z. Orto.

Clinical Notes and Observations on Prevailing Fevers, J. A. Dibrell, Jr.

Bilious Fevers of Arkansas, Dr. G. M. D. Cantrell.

Treatment of Croup with Hydrargari Sulphas Flava, Dr. E. R. DuVal.

A Case of Stricture of the Æsophagus from Schirrus, Dr. R. G. Jennings.

Prevention of Syphilis and Other Diseases, Dr. J. M. Kellar.

A Study of the Red Corpuscles of the Blood, Dr. T. E. Murrell.

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Climate and Diseases of Benton County, Dr. T. W. Hurley.

A Plea for Some Neglected Branches in Medicine, Dr. G. C. Hartt.

Osteo Sarcoma—History of a Case, C. L. Kirkscey.

Rupture of the Perineum, Dr. T. W. Hurley.

A Case of Occlusion of the Vagina, Complicated with Pregnancy, Dr. E. Cross.

Nympomania Cured by Operation for Hemorrhoids, with Remarks, Dr. W. H. Hardison.

Case of Fracture of Base of Skull, Dr. E. R. DuVal.

Report of a Case of Impacted Calculus in Urethra of Child Eight Years Old, Dr. G. W. Hudson.

A Case of Ununited Fracture of Tibia and Fibula, Dr. J. E. Bennett.

Case of Spinal Meningitis, Dr. Albert Dunlap.

Typho-Malarial Fever, Dr. J. W. Price.

The first paper read was that of Dr. Hooper, by himself, and most interesting in facts, figures, deductions and recommendations it proved to be. He showed that the number of insane people in the United States was much less in proportion to population than in England, in fact only about one-half; while taking this country by sections, the most encouraging facts were in favor of the South. Statistics show that in the New England States 1 to every 558 of the population is insane; in the Middle States, 1 to every 600; in the Western States, 1 to every 850; and in the Southern States, 1 to every 1100. Even at this ratio Arkansas has to-day over 700 insane persons. Humanity requires that provision should be made for these unfortunates; it is as much a duty as to provide for common schools. The insane, as has been said, are "the wards of the commonwealth." The essay went into particulars as to the cost and what should be the proper character of building for an insane asylum, and congratulated the people of this State that shortly it would have such an institution. The Doctor argued the superiority of moral over mechanical or punitary modes of treatment of the insane, and maintained that insanity was nothing but a disease of the brain, and that an asylum for their care and cure should be regarded and managed as a hospital.

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Dr. Hawkins moved to receive and refer to the Publishing Committee.

Cause of Malarial Poison, by Dr. Z. Orto, of Walnut Ridge, was warmly received. He said it was generally held that malaria was caused by heat, moisture and decaying vegetation, although he did not hold to the last named. His view was that it was living organisms more than gases. If a gas, chills would not appear at regular intervals, because being once removed the cause was eliminated. With living organisms it is different. The cause is not completely removed. He spoke at length of the medicines used in treating malaria, showing the danger in the use of quinine as well as its success.

Dr. Christian moved to receive. Carried.

Dr. Jelks gave his experience with bacteria, how a friend found bacteria on a plank in a mill pond, etc.

Dr. Murrell spoke at length on bacteria, stating that he had found all kinds in swamp mud. He gave a history of his experience with the malaria plant, on the upper part of Manhattan Island.

Dr. Keller mentioned the finding of bacteria in the mouth of people dying with yellow fever.

Dr. Murrell stated he had found bacteria in the scrapings of the tongue of healthy persons, and in tears—in fact, everywhere.

Dr. Breysacher moved to refer the paper to the Committee on Publication. Carried.

Clinical Notes and Observations on Prevailing Fevers, by Dr. J. A. Dibrell, jr., was well received. He showed how fevers originated in the city, and how they refused to give way to treatment when sanitary measures were not enforced; treated of the special features of fevers, etc., and submitted a list of cases.

Bilious Fevers of Arkansas, by Dr. G. M. D. Cantrell, of Hope; Treatment of Croup with Hydrargari Sulphas Flava, by Dr. E. R. DuVal, of Fort Smith, read by Dr. Dibrell, and A Case of Stricture of the Œsophagus from Schirrus, by Dr. R. G. Jennings, were all excellent papers and well worthy of publication.

Recess.

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WEDNESDAY—NIGHT SESSION.

Excellent papers, as follows, were read, discussed and referred:

The Prevention of Syphilis and Other Diseases, Dr. J. M. Kellar.

A Study of the Red Corpuscles of the Blood, Dr. T. E. Murrell.

Report of a Case of Fracture of Tibia and Fibula, Dr. J. E. Bennett.

Report of a Case of Spinal Meningitis, Dr. A. Dunlap.

At 11 o'clock the Society adjourned until 9 o'clock Thursday morning.

MORNING SESSION.

The Society assembled for its second day's proceedings in the hall of the House of Representatives, and at 9:30 o'clock was called to order by Dr. D. C. Ewing, Vice-President.

An invitation from the Blind Institute, for the Society to visit that institution, was read, and, on motion of Dr. Christian, it was ordered that the thanks of the Society be returned.

The Secretary announced the names of the committee for the nomination of officers for the ensuing year, the same being composed of one Doctor from each delegation present.

Dr. W. W. Hawkins read the report of the Committee on Medical Education, which, on motion of Dr. West, was received.

Dr. Jennings introduced to the Society, Dr. B. Agin, of Cincinnati; Dr. Kellar introduced Dr. Julius Wise, of Memphis, and Dr. Dibrell, jr., introduced Dr. Thomas Smith, of Little Rock.

On motion, the gentlemen introduced, were invited to seats on the floor.

Dr. Southall, Chairman of the Committee on Medical Legislation, read his report, which, on motion of Dr. Orto, was received.

Interesting remarks were then made in connection with the report by Drs. Orto, Kellar, Cantrell and Bennett.

On motion of Dr. Gibson, the report of the committee was accepted and the committee instructed to carry out the recommendations embodied therein.

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Dr. Dibrell, jr., in the absence of Dr. DuVal, read the report of the latter as Chairman of the Committee on the Practice of Medicine. Received.

A discussion, both learned and instructive, followed and was participated in by Drs. Ross, Dibrell, jr., Orto, Kellar, West, Nichols, Carrigan, Vance, Gabbert, of Memphis, Agin, of Cincinnati, and Jennings.

The report of the Committee on Publication was read by Dr. Gibson, and, on motion, adopted.

Dr. Murrell read a report from the Committee to Consider the Propriety of Establishing a Medical Journal in this city. It was averse to any effort of that kind, just at present, the time being inauspicious. Report adopted.

Dr. Jennings read a report of the delegates to the National Medical Association, which, on motion, was adopted.

Dr. Gibson read his report as Secretary; also, the reports of Dr. A. L. Breysacher, Treasurer, and Dr. John Waters, Librarian. All three of the reports, on motion, were adopted.

Dr. Bennett, of Fort Smith, read a short paper in relation to the giving of expert testimony before the courts, and insisting that a reasonable fee should, in all cases, be demanded therefor. He referred to a case in Fort Smith, in which he refused to testify unless a fee was paid, and United States Judge Parker decided that he was entitled to one.

The Special Committee on the President's Address, reported through Dr. Hawkins, and recommended that steps be taken to forward the interests of medicine and the views of the Society especially, in securing needed and wiser legislation.

A letter from the Secretary of the Washington County Medical Society was read, announcing the expulsion from that organization of Dr. B. M. Hughes, of Eureka.

On motion of Dr. Kellar, the action of the Society was approved.

A communication from the Van Buren Medical Society requested, among other things, that the delegates to the National Convention be instructed to vote against the admission to that body of delegates from the New York State Medical Association, which had attempted to revolutionize the profession by an unprofessional revision of the Code of Ethics.

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Some discussion, not as to the character, but the measure, of action to be taken, was finished by the adoption of a motion by Dr. Kellar, that the State Medical Society of Arkansas adopt as its views the resolutions of the Montgomery, Alabama, Medical Society, which were decidedly strong in their opposition to the New York revised code.

Dr. J. W. Price submitted the following resolution:

WHEREAS, The State of Arkansas, having now in the course of construction an asylum for the insane, and

WHEREAS, There being no asylum for the treatment of confirmed inebriates in the southwest; therefore

Resolved, That the President of the State Medical Association appoint a committee of three to draft a memorial, and present the same to the next General Assembly of Arkansas, urging the setting apart of one wing of said asylum for the special treatment of such confirmed inebriates as experience has shown may be restored to society, morally and socially.

A motion to table the resolution was lost, and then it was, on motion of Dr. Christian, referred to the Committee on Legislation.

The Society then took a recess until 2 o'clock.

AFTERNOON SESSION.

At two o'clock the Society was called to order by the President, Dr. Jennings.

Dr. Murrell exhibited a patient upon whom he had performed canthotomy, and afterwards Hotz' operation for entiopium, successfully correcting the deformity and restoring good vision.

Dr. G. C. Hartt read a paper entitled, A Plea for Some Neglected Branches in Medicine, which was learned in matter, and eloquent in language and thought.

The remainder of the afternoon was devoted to the reading and discussing the following papers: Nymphomania Cured by Operation for Hemorrhoids—Wm. H. Hardison; Partial Occlusion of the Vagina Complicated with Pregnancy—E. Cross; Case of Impacted Calculus in Boy Eight Years Old—G. W. Hudson; A Case of Fracture of the Scull—E. R. DuVal; Typho-Malarial Fever, and Other Facts—J. W. Price.

The Nominating Committee reported the election of the following officers for the ensuing year: J. H. Southall, Presi-

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dent; J. A. Dibrell, sr., H. H. Turner, Z. Orto, D. J. Prather, Vice-Presidents; L. P. Gibson, Secretary; Edward Meek, Assistant Secretary; A. L. Breysacher, Treasurer; John Waters, Librarian.

Little Rock was selected as the place, and the Wednesday before the meeting of the American Medical Association as the time, of meeting.

A committee of two members was, on motion, appointed to conduct the President-elect to the chair. In a few minutes the committee appeared with Dr. Southall, who was introduced, and in appropriate words acknowledged the honor that had been conferred upon him.

Resolutions were adopted thanking the citizens and physicians of Little Rock for the many kindnesses and courtesies extended to the members during their sojourn in the city, to the railroads for reduction of fare, and to the officers for faithful discharge of duty; also the following:

WHEREAS, Dr. L. P. Gibson has faithfully discharged the duties of Secretary of this Society;

Resolved, That the thanks of this Society be tendered Dr. Gibson, and as an earnest of the appreciation of his services, that he be allowed an honorarium of $100, and that a check be drawn on the Treasurer for that amount.

Dr. Jennings, the retiring President, in a neat address thanked the Society for their indulgence, forbearance and honor shown him. After which he declared the Society adjourned to next annual meeting.

CASE OF MASTOID ABSCESS.—Dr. D. W. Prentiss reports in the *American Journal of Medical Sciences* for April, 1882, a case of mastoid abscess which ruptured into the lateral sinus, and caused death by pyæmia. The autopsy disclosed greatly enlarged spleen, large anæmic kidneys, œdematous lungs, with hypostatic congestion, pleuritis, and slightly enlarged liver, with pyæmic infractions in the several organs, but did not show the source of infection until the cranium was opened. A dissection of the right temporal bone showed that the pus had been poured directly into the circulation through the lateral sinus.

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We would respectfully call your attention to our new preparation, Maltopepsine, which we regard a very important Remedial Agent for Indigestion, Constipation, Dyspepsia, Vomiting in Pregnancy, Nervousness, Loss of Appetite, all forms of Gastric Derangement, Atonic Diarrhœa, and Indigestive Diarrhœa of Children. This valuable remedy contains the digestive and nutritive properties of the grain unimpaired, combined with the active agents of digestion, viz: Diastase, Pepsine, Lactic Acid, Hydrochloric Acid, with a small addition of Phosphoric Acid, Powdered Firwein, and the Bromide and Chloride of Aluminum, and Sugar of Milk.

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Gentlemen—A medical friend gave me a small sample bottle of your Maltopepsine which I took with apparent decided benefit. I did not vomit during the week I had the medicine to take, nor have I been troubled up to this time, and as I do not wish to be without so valuable a medicine, I inclose two dollars, with the request to have you send me by return mail the value of the money sent. I am very confident it will entirely cure me, as the small amount used acted so favorably. I would like also to use it in my practice, as it will certainly prove very beneficial in all cases of dyspepsia.

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Nutritives of the Grain	10 "	Hydrochloric Acid	5 " "
Powdered Firwein	7 "	Phosphoric Acid	3 " "
Pepsine	16 "	Aluminum	3 " ounces
Diastase	6 drams.		

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Maltopepsine (in oz. bottles) per oz	$ 75
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Maltopepsine (in lb. bottles) per lb	8 00

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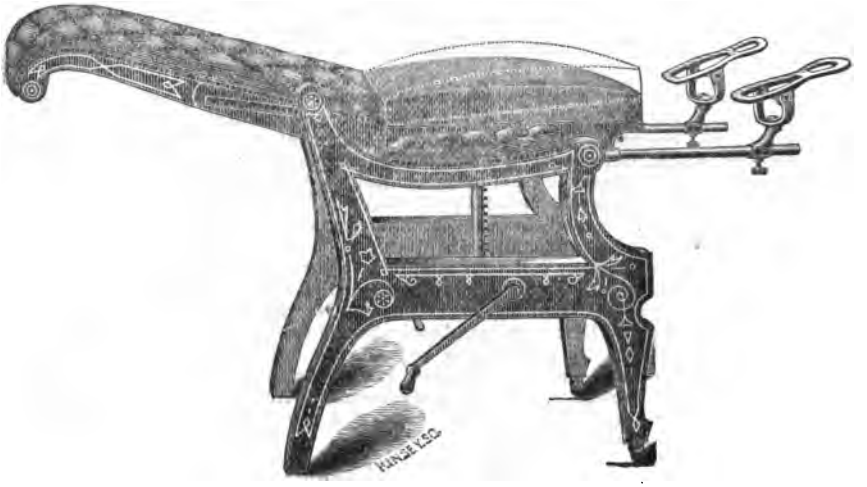

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